

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An object catcher comprising:

a support shaft having a proximal end and a distal end;

a sheet portion arranged adjacent to the distal end of the support shaft, the sheet portion defining a periphery;

a first line having a first end, a second end, and an intermediate portion therebetween; and

a second line having a first end, a second end, and an intermediate portion therebetween;

wherein the first ends of the first and second lines are secured to the distal end of the support shaft, the intermediate portions of the first and second lines are slidably coupled to the periphery of the sheet portion, and the second ends of the first and second lines extend in parallel with the support shaft so that pulling the second ends of the first and second lines in the direction from the distal end to the proximal end of the support shaft causes the periphery of the sheet portion to be gathered to thereby close the sheet portion.

2. The object catcher of Claim 1, wherein the support shaft comprises a first tube and the second ends of the first and second lines extend through the tube.

3. The object catcher of Claim 2, further comprising a rod adapted to slide within the tube, the rod defining a distal end and a proximal end, and the second ends of the first and second lines being secured to the distal end of the rod so that pulling the proximal end of the rod in the direction from the distal end to the proximal end of the support shaft causes the periphery of the sheet portion to be gathered to thereby close the sheet portion.

4. The object catcher of Claim 2, further comprising:

an elastic element housed within the tube, the elastic element defining a distal end and a proximal end, the second ends of the first and second lines being coupled to the distal end of the elastic element, the proximal end of the elastic element being coupled to the proximal end of the tube;

a latch coupled to the tube for engaging with the distal end of the elastic element in a biased position to thereby maintain the sheet portion in an open position; and

a release element coupled to the latch, the release element being accessible from outside the tube for actuation;

wherein actuation of the release element disengages the latch from the distal end of the elastic element to release the elastic element to return to a non-biased position to thereby close the sheet portion.

5. The object catcher of Claim 2, further comprising:

a nut coaxially housed within the first tube, the nut being arranged to move along a length of the first tube without axially rotating relative to the first tube, the nut defining a distal end and a proximal end, the second ends of the first and second lines being coupled to the distal end of the nut, the nut defining an internally threaded surface;

a second tube including a distal end and a proximal end, the first tube being telescopically coupled to the second tube so as to selectively extend from the distal end of the second tube;

an externally threaded rod defining a distal end and a proximal end, the distal end of the rod being threaded into the internally threaded surface of the nut via the proximal end of the nut so that rotating the rod in first and second directions will move the nut toward and away from the distal end of the first tube to thereby open and close the sheet portion, respectively, the externally threaded rod being housed within the second tube; and

an actuator coupled to the proximal end of the threaded rod for rotating the rod in the first and second directions.

6. The object catcher of Claim 5, wherein an interior surface of the first tube defines a channel extending along the length of the first tube and the nut includes a projection to be received in the channel so as to prevent the nut from axially rotating relative to the first tube while moving along the length of the first tube.

7. The object catcher of Claim 5, wherein the actuator comprises:

a pinion secured to the proximal end of the rod;

a crown wheel coupled to the pinion; and

a crank handle coupled to the crown wheel for rotating the crown wheel, the crank handle being accessible from outside the second tube;

wherein the rotation of the crown wheel axially rotates the pinion and hence the rod.

8. The object catcher of Claim 5, wherein the actuator comprises an electric motor and a switch accessible from outside the second tube.

9. The object catcher of Claim 1, wherein the periphery of the sheet portion defines a channel through which the intermediate portion of the line extends.

10. The object catcher of Claim 1, wherein the sheet portion is formed of a mesh material.

11. The object catcher of Claim 1, wherein the line comprises a wire.

12. The object catcher of Claim 1, further comprising a blade connected to the distal end of the support shaft.

13. The object catcher of Claim 1, further comprising a swivel joint coupled to the distal end of the support shaft.